

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:
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PCT

WRITTEN OPINION

(PCT Rule 66)

Applicant's or agent's file reference 010137WO		Date of Mailing (day/month/year) 11 JUN 2003 REPLY DUE within 2 months/days from the above date of mailing
International application No. PCT/US02/16102	International filing date (day/month/year) 21 May 2002 (21.05.2002)	Priority date (day/month/year) 22 May 2001 (22.05.2001)
International Patent Classification (IPC) or both national classification and IPC IPC(7): H04B 1/707 and US Cl.: 375/296		
Applicant QUALCOMM INC.		

1. This written opinion is the first (first, etc.) drawn by this International Preliminary Examining Authority.

2. This opinion contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2 (a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

3. The applicant is hereby **invited to reply** to this opinion.

When? See the time limit indicated above. ~~The applicant may, before the expiration of that time limit, request this Authority to grant an extension. See rule 66.2(d).~~

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also For an additional opportunity to submit amendments, see Rule 66.4.
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 *bis*.
For an informal communication with the examiner, see Rule 66.6

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 22 September 2003 (22.09.2003)

Name and mailing address of the IPEA/US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703)305-3230	Authorized officer Kevin Y Kim Telephone No. 703-305-3500
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Form PCT/IPEA/408 (cover sheet)(July 1998)

WRITTEN OPINION

International application No.

PCT/US02/16102

I. Basis of the opinion

1. With regard to the **elements** of the international application:*

- ☒ the international application as originally filed
- ☒ the description:
 pages 1-23, as originally filed
 pages NONE, filed with the demand
 pages NONE, filed with the letter of _____
- ☒ the claims:
 pages 24-27, as originally filed
 pages NONE, as amended (together with any statement) under Article 19
 pages NONE, filed with the demand
 pages NONE, filed with the letter of _____
- ☒ the drawings:
 pages 1-6, as originally filed
 pages NONE, filed with the demand
 pages NONE, filed with the letter of _____
- ☐ the sequence listing part of the description:
 pages NONE, as originally filed
 pages NONE, filed with the demand
 pages NONE, filed with the letter of _____

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the written opinion was drawn on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☒ The amendments have resulted in the cancellation of:

- ☒ the description, pages NONE
- ☒ the claims, Nos. NONE
- ☒ the drawings, sheets/fig NONE

5. ☐ This opinion has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed."

WRITTEN OPINION

International application No.
PCT/US02/16102

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. STATEMENT

Novelty (N)	Claims <u>7,8,10,19,20</u>	YES
	Claims <u>1-6,9,11-18</u>	NO
Inventive Step (IS)	Claims <u>7,8,10,19,20</u>	YES
	Claims <u>1-6,9,11-18</u>	NO
Industrial Applicability (IA)	Claims <u>1-20</u>	YES
	Claims <u>NONE</u>	NO

2. CITATIONS AND EXPLANATIONS

Claims 1-3,5,6,9,11-13,16-18 novelty under PCT Article 33(2) as being anticipated by Birchler.

Consider claims 1,9,11,13,17. Referring to Fig. 5, Birchler discloses a peak-to-average signal reduction method/module (511) which, in response to a peak exceeding a threshold, applies a peak reducing function to the input signal. See col.3:33 - col.4:11 in particular. When the peak is below the threshold, the application of the function stops. The transmitter (517) includes a power amplifier that subsequently amplifies the reduced signal. See col.1:11-20.

Regarding claims 2,12, the function is applied to the input signal at least once when the peak exceeds the threshold, thus meeting the limitation of "a given number of times."

Regarding claim 3, since the system is not limited to any particular system, it is also include in "a subscriber unit."

Regarding claims 5,6,16,18 the function applied to the input signal includes an inverted Hanning window. See col.4:12-16. Hanning window is a raised cosine function which is thus a trigonometric function.

Claim1-4,9,11-15,17 novelty under PCT Article 33(2) as being anticipated by Awater et al.

Consider claims 1,9,11,13,17. Referring to Figs.3-6, Awater et al discloses a peak-to-average signal reduction method/module (32,52-62) which, in response to a peak exceeding a threshold, applies a peak reducing function to the input signal. When the peak is below the threshold, the application of the function stops. The RF transmitter (38) includes a power amplifier.

Regarding claims 2,12, the function is applied to the input signal at least once when the peak exceeds the threshold, thus meeting the limitation of "a given number of times."

Regarding claim 3, since the system is not limited to any particular system, it is also include in "a subscriber unit."

Regarding claims 4,14, see col.3, line 4 teaching CDMA signals to which the peak-to-average signal reduction module could be used.

Regarding claim 15, since the system is not limited to any particular system, it is also include in "a subscriber unit."

Claims 7,8,10,19,20 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest the particular function used for reducing peak to average signal.

Claims 1-20 meet the criteria set out in PCT Article 33(4), and thus has industrial applicability because the subject matter claimed can be made or used in industry.

----- NEW CITATIONS -----

US 5,287,387 A (BIRCHLER) 15 February 1994, Fig.5, column3, lines 4-11.

WRITTEN OPINION

International application No.
PCT/US02/16102

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

TIME LIMIT:

The time limit set for response to a Written Opinion may not be extended. 37 CFR 1.484(d). Any response received after the expiration of the time limit set in the Written Opinion will not be considered in preparing the International Preliminary Examination Report.